

ABSTRACT OF THE DISCLOSURE

A workpiece processing station is disclosed. The workpiece processing station has particular applicability in an electroplating process for semiconductor wafers. The apparatus includes a work processing bowl having an outer bowl and an inner cup positioned at a location slightly below the upper rim of the bowl. An annular space is provided between the sides of the processing bowl and the fluid cup. Fluid is provided to the fluid cup through an opening in the bottom of the fluid cup. The fluid overflows the fluid cup and drains down the open annular space between the process bowl and the fluid cup and passes through the opening in the bottom of the process bowl and into a fluid reservoir. A reservoir is preferably used as both the supply and the return for the process fluid. The apparatus further includes filters disposed within the bottom of each fluid cup between the bottom of the fluid cup and the process fluid inlet line such that the process fluid must flow upward through the filter before entering the upper portion of the fluid cup. In the preferred embodiment, the workpiece processing station includes a plurality of the process bowl assemblies all having a common reservoir in which process fluid may drain. The invention also includes the method of flowing process fluid into a process vessel such that it overflows and returns to a common fluid return reservoir during the semiconductor manufacturing process.